KATIE M. SAUND

katiemsaund@gmail.com 313.418.3016 linkedin.com/in/katiesaund katiesaund.com github.com/katiesaund/

RESEARCH EXPERIENCE & EDUCATION

Postdoctoral Research Fellow at University of Michigan, Ann Arbor, MI   Dec 2020 – Present
- **Advisor:** Evan Snitkin, PhD

PhD in Microbiology & Immunology at University of Michigan   2015 – Nov 2020
- **Advisor:** Evan Snitkin, PhD
- **Thesis project:** Statistical approaches to identify variants in whole genome sequencing (WGS) data associated with pathogenic phenotypes and patient outcomes during *Clostridium difficile* infection.
- **Topics:** computational biology, bacterial genomics & metagenomics, infectious disease, tool development
- **Awards:** ASM Travel Award (2019), UM Rackham Conference Travel Grant (2019) & Professional Development Award (2019), NIH Predoctoral Genetics Training Grant (2016 – 2018), UM Maas Fellowship (2015).
- **Software:**
  - prewas. R package. Data preprocessing for bacterial GWAS.
  - hogwash. R package. Three bacterial GWAS methods.
- **Papers:**
  - Saund & Snitkin. Microbial Genomics. 2020.
  - Saund*, Lapp*, Thiede*, Pirani, Snitkin. Microbial Genomics. 2020. *Equal contribution.
  - Saund, Rao, Young, Snitkin. Open Forum Infectious Diseases. 2020.
  - Mau, Eckley, Bergin, Saund, Villano, Vendrov, Snitkin, Young, Yung. mSphere. 2019.
  - Preprint: Bassis, Bullock, Sack, Saund, Pirani, Snitkin, Alaniz, Quint, Young, Bell
- **External talks:** ASM Microbe (2019) & NIAID Systems Biology and Antibacterial Resistance Program (2018).

Intern with Marc Sze, PhD in Genetics and Pharmacogenomics Department at Merck (Remote)   Summer 2020
- **Topics:** single-cell RNA sequencing (scRNA-seq), early discovery oncology

Research rotation with Benjamin Segal, MD at University of Michigan   2015
- **Topics:** autoimmunity, T-regs, T-cells, experimental autoimmune encephalomyelitis (multiple sclerosis mouse model)

Research Assistant and Scientist 1 (Promoted 2014) Seattle Children's Research Institute, Seattle, WA   2012 – 2015
- **Advisor:** Courtney Crane, PhD (University of Washington & Ben Towne Center for Childhood Cancer Research)
- **Topics:** immunotherapy, solid tumor microenvironment, immuno-oncology, metabolism, NK cells & macrophages
- **Paper:** Haberthur, Brennan, … Cancer Biology & Therapy. 2016.

California Institute of Technology (Caltech) BS Biology, Pasadena, CA   2008 – 2012
- **Leadership:** Co-President for Class of 2012.
- **Awards:** Everhart Service (2012), Teruggi Memorial (2011), Studenski Memorial (2010), & Shepard (2009).
- **Research:** SantaLucia Lab: 16s rRNA alignment algorithm improvement (Wayne State University; 2009) & Manary Lab: food & clinical interventions for pediatric malnutrition (Washington University; 2010 & 2011).

COMPUTATIONAL AND LABORATORY SKILLS

Computational: R, bash, package development, high performance cluster (HPC) computing, version control (git), data visualization, markdown, batch scheduling (PBS, Slurm, Grid Engine), unit testing, linux/mac/PC
Bioinformatic tools: blast, ksnp, mafft, prank, roary, sift, snpeff
R packages: ape, covr, devtools, lintr, phangorn, phytools, seqinr, Seurat, tidyverse, usethis
Laboratory: CRISPR/Cas9 genome editing, cryostat, ELISA, experimental design, flow cytometry, immune cell isolation (cell sorting, magnetic enrichment), lentiviral transduction, mammalian cell culture, molecular biology (Gibson assembly, transfection, Western blot, qPCR), mouse handling, microbial techniques (anaerobic bacterial culture), plasmid construction, protein co-immunoprecipitation, robotic pipetting system.

INVESTING & MENTORSHIP AT UNIVERSITY OF MICHIGAN

Student Advisor at Wolverine Venture Fund   2018 – 2020
- Performed due diligence on Series A/B healthcare & technology companies to inform investment decisions.

Venture Capital Investment Competition   2018 – 2019
- First place team at UM Ross School of Business competition & participant at Regional Competition (UT Austin).

Undergraduate Honors Thesis Research Mentor   2018 – 2021
- Weekly supervision of thesis research for undergraduate microbiology student.